

CLAIMS

1. An electrode forming method, in which a metal salt solution and a reducing agent solution are disposed on respective both sides of a solid electrolyte form and the metal salt solution is caused to pass through the solid electrolyte form by osmosis to thereby deposit a metal near the interface on the reducing agent solution side of the solid electrolyte form.

2. The electrode forming method according to claim 1, wherein the solid electrolyte form has two surfaces opposite each other.

3. The electrode forming method according to claim 1 in which the solid electrolyte form is a tubular or cylindrical solid electrolyte form and that the metal salt solution is caused to pass through the solid electrolyte form by osmosis is performed in the step (1) in which the solid electrolyte form is immersed in the reducing agent solution so that the outer side surface of the solid electrolyte form is in contact with the reducing agent solution and the metal salt solution is caused to flow in a space on the inner side of the solid electrolyte form, to cause the metal salt solution to pass through the solid electrolyte form by osmosis and to thereby deposit a metal on the outer side surface of the solid electrolyte form or

in the step (2) in which the solid electrolyte form is immersed in the metal salt solution so that the outer side surface of the solid electrolyte form is in contact with the metal salt solution and the reducing agent solution is caused to flow in a space on the inner side of the solid electrolyte form to thereby cause the metal salt solution to pass through the solid electrolyte form by osmosis to thereby deposit a metal on the inner side surface of the solid electrolyte form.

4. A production method for an actuator element forming an electrode with the electrode forming method according to claim 1.

5. The production method for an actuator element forming an electrode with the electrode forming method according to claim 3.

6. A production method for a laminate composed of a solid electrode layer and a electrode layer from which an electrode was formed with the electrode forming method according to claim 3.

7. The production method for a laminate according to claim 6, wherein the solid electrolyte layer is an ion exchange resin layer.

8. The laminate having a thickness of 1 mm or more and composed of a solid electrolyte layer and an electrode layer.

9. An electrochemical device using the laminate according to claim 8.

10. An actuator using the laminate according to claim 8 as an actuator element.

11. A positioning device, an attitude control device, a lifter, a transport apparatus, a moving apparatus, an adjustment device, an regulation device, a guiding apparatus, a joint device, a change-over device, a reversing apparatus, a take-up apparatus, a traction apparatus and a swing device using a laminate according to claim 8 as a driving part.

12. A press apparatus using a laminate according to claim 8 as a pressing part.